



**SP ENERGY
NETWORKS**

**Cronberry to Boghead
11kV Overhead Line Rebuild**

NON-TECHNICAL SUMMARY

June 2010



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PREFACE

Further copies of this report may be obtained from: Copies of the documents will be available for public viewing at the following locations:

SP Energy Networks

Environmental Planning
3 Prenton Way
Prenton
Merseyside
CH43 3ET
Tel: 0151 609 2568

Council Offices

Planning & Economic Development
Department of Corporate Support Council Offices
East Ayrshire Council
Lugar
KA18 3JQ

Libraries

Cumnock Library
25 to 27 Ayr Road
Cumnock
East Ayrshire
KA18 1EA

Copies of the Environmental Statement may be obtained from SP Transmission (tel: 0151 609 2568) at a charge of £50 hard copy and £5 on DVD. Copies of the non-technical summary are available free of charge.

Any representations to the application should be made by completing the online representation form on The Scottish Government, Energy Consents website at <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-Consents/Support-object> or

by email to: The Scottish Government, Energy Consents Unit mailbox at energyconsents@scotland.gsi.gov.uk or

by post to: **The Scottish Government
Energy Consents Unit
2nd Floor, Meridian Court
5 Cadogan Street
Glasgow, G2 6AT** Identifying the proposal and specifying the grounds for representation.

Representations should be dated and should clearly state the name (in block capitals) and full return email or postal address of those making representation. All representations to the Scottish Government will be copied in full to the planning authority, and made available to the public on request, unless individuals request otherwise.

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1 INTRODUCTION

Background

- 1.1 This Non-Technical Summary (NTS) has been prepared in support of the Section 37 application (under the Electricity Act 1989) to the Scottish Ministers to construct and operate a 11kV overhead line between the Cronberry Primary Substation and Common Farm, near Lugar, in East Ayrshire, Scotland.
- 1.2 The NTS accompanies an Environmental Statement which reports on the findings of an Environmental Impact Assessment (EIA) of the proposed overhead line replacement and has been prepared following the requirements set out in the Electricity Work (Environmental Impact Assessment) (Scotland) Regulations 2000 as amended (“the EIA Regulations”).
- 1.3 SPEN undertakes duties on behalf of SP Distribution Ltd (SP Distribution). SP Distribution, part of the Scottish Power group, holds an electricity distribution licence and owns the distribution network situated mainly in central and southern Scotland. SP Distribution has a statutory duty under the terms of its distribution licence to provide a secure supply to its customers. It is also SP Distribution’s duty to consider the possible environmental effects of projects and to state what can *‘reasonably be done’* to mitigate any identified adverse environmental effects.
- 1.4 Under section 37 of the Electricity Act 1989 SP Distribution are required to apply for consent to rebuild a 7.5km section of overhead wood pole 11kV that was unlawfully removed between Cronberry Primary Substation and Common Farm. The line provides a secure backfeed for the electricity network which is required to meet statutory duties in providing reliable electricity supplies.
- 1.5 The overhead line runs through the borough of East Ayrshire starting at Cronberry Primary Substation, near Nether Wellwood, running roughly south west alongside the Barlow Water to Common Farm, north of the Council Offices at Lugar.
- 1.6 A section of the overhead line passes through the Muirkirk and North Lowther Uplands Special Protection Area (SPA), Airds Moss Special Area of Conservation (SAC) and Muirkirk Uplands Site of Special Scientific Interest (SSSI) (“Muirkirk Uplands SPA/SAC/SSSI”).
- 1.7 In 2007 SP Distribution submitted an application, supported by the relevant environmental information, to the Scottish Ministers to construct an overhead line. The application was not objected to by statutory consultees and was subsequently granted by the Scottish Government. However, consent was revoked by the Scottish Government who had reviewed the determination to grant consent, considering the decision inappropriate due to the absence of an EIA. The Scottish Government instructed SPEN of a screening opinion requiring EIA.

- 1.8 The ES accompanies the section 37 application to the Scottish Minister for consent to construct the overhead line. The report has been prepared by SPEN with detailed ecological surveys carried out by Central Environmental Surveys.
- 1.9 Consideration of the application will involve striking a balance between the need for the proposed development, technical and economic considerations and the mitigation of likely environmental effects.

Environmental Impact Assessment

- 1.10 To accompany the section 37 application for the scheme an Environmental Impact Assessment (EIA) has been undertaken to identify the potential environmental effects of the proposed overhead line rebuild. An EIA has been deemed necessary for this project as it may cause likely significant impacts on a sensitive site, ie the Muirkirk Uplands SPA/SAC/SSSI.
- 1.11 The Environmental Statement (ES) reports on the potential significant effects the proposed overhead line rebuild could have on the ecology, nature conservation and ornithology of the area. Other topic areas have been scoped out of the EIA due to the lack of likely significant environmental effects.

2 PROJECT NEED AND DESIGN

Electricity Network

- 2.1 The requirement for a replacement overhead line follows the unlawful removal of the original overhead line. The sections of overhead line not unlawfully removed are in a poor condition, which results in poor quality of supply to customers, and therefore is scheduled for refurbishment.
- 2.2 The overhead line forms an integral part of the existing electricity network, supplying the areas of Cumnock and New Cumnock. The line ensures security of supply to businesses and residents in these populated areas.
- 2.3 The line feeds a total of 68 rural customers, the majority of which are on the long spur line from Common Farm to Auchinleck. It also provides alternative supplies to Lugar village in the event of a fault on the normal supply line.

Routeing Constraints & Opportunities

- 2.4 The area through which the Cronberry 11kV line (the line proposed for replacement) is routed contains a variety of environmental and technical constraints. In developing potential routes for any overhead line avoiding designated sites and minimising landscape impacts are key, however, due to its scale, location and the nature of the network, impacts on the Muirkirk Uplands SPA/SAC/SSSI have been unavoidable. Diverting the route to the north or south poses significant technical issues and would not provide a route that avoids the designated area without considerable additional length of overhead line. In the case of diverting to the south, the route would be in close proximity of properties and the existing 11kV overhead line along the A70, whilst to the north it would require a much longer route through the difficult terrain of the River Ayr valley.
- 2.5 SPEN prefer to construct offline, alongside an existing overhead line route but will also examine the possibilities of a completely new route for the overhead line if this will be cost effective, reduce the environmental impact and is technically feasible. For this project SPEN considered a number of route options away from the existing overhead line.
- 2.6 The existing route through the Muirkirk Uplands SPA/SAC/SSSI is on the shortest route through the section of the moss and therefore is generally considered to cause the least damage. To deviate the line to the north would impact more on the designated site due to the requirement for additional poles and stays and the additional access for vehicles.
- 2.7 To deviate the line to the south of the designated area would route the line close to built up areas and children's play areas. There would be technical difficulties in obtaining a route as there is an old railway bridge and banking to consider. It would also have the potential to impact on a provisional Scottish Wildlife Trust site at the pond near to Common Farm.

- 2.8 Discussions with SNH have resulted in the agreement that construction online of the original overhead line route would cause the least impact to the Muirkirk Uplands SPA/SAC/SSSI designated area.
- 2.9 SPEN consider that with strict controls in place it is possible to route the proposed overhead line through the Muirkirk Uplands SPA/SAC/SSSI with no long term effect on the qualifying features of the designated site.



3 DEVELOPMENT DESCRIPTION

Proposed Route

- 3.1 The proposed overhead line is located in East Ayrshire and runs generally south west from Cronberry Primary substation (NS649259) through to Common Farm (NS519226) as illustrated, along with original overhead line route, in Figure NTS 1.
- 3.2 The study area is centered on the Barlow Valley with the Barlow Water flowing through it and bisecting the study area in a north east to south west direction. The A70 generally follows the direction of the Barlow Water. Cumnock forms the western edge of the study area and there are a number of smaller scattered settlements and dwellings located within the study area including Auchinleck, Logan, Lugar and Cronberry. Within the area there are a number of forestry plantations, remnant mosses and former opencast workings.

Line Design

- 3.3 11kV overhead lines are supported on wood poles with steelwork bracings and carry the three conductors (electric wires). The wood poles are approximately 9 to 11m tall including the height of the conductors. Typically the span lengths are an average of 90m.

Construction

- 3.4 Construction will involve:
- Small scale earthworks around the base of wood poles including top soil stripping and excavations;
 - Erection of the wood poles and backfilling of excavations;
 - Stringing of conductors; and
 - Reinstatement of affected ground.
- 3.5 The type of plant and equipment involved in construction activities are relatively small scale and would be limited to low ground pressure vehicles within the Muirkirk Uplands SPA/SAC/SSSI designated site.

Operation

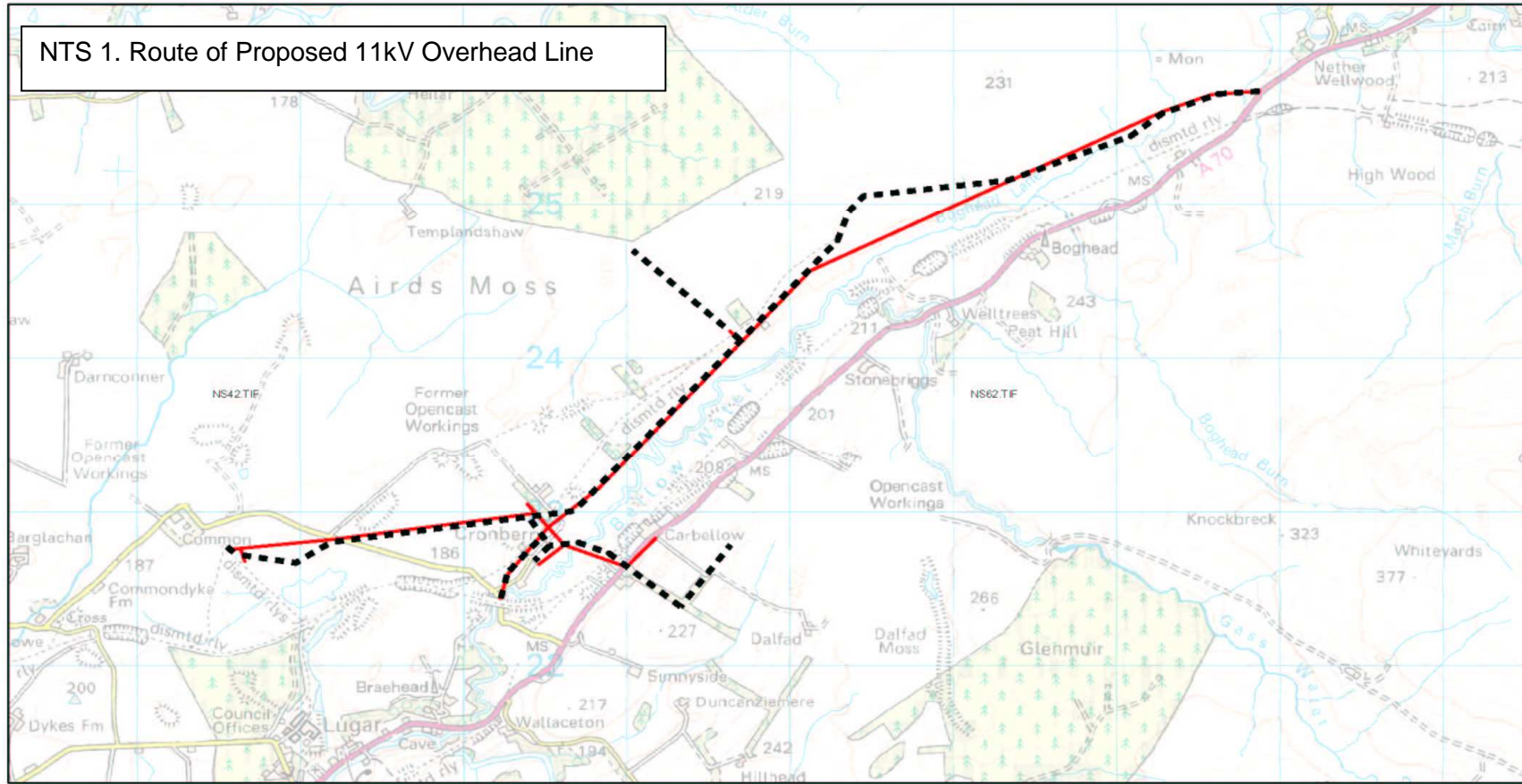
- 3.6 Wood poles have an expected lifespan of around 40 years and once operational, inspection and maintenance activities will be limited. Regular inspection of exposed elements which suffer from corrosion, wear, deterioration and fatigue will be required to ensure the safety of all components.

Good Practice and Mitigation

- 3.7 Detailed good practice and mitigation has been proposed for the overhead line. Measures to address pollution prevention, ecology and ornithology interests along the overhead line route will be adhered to for the duration of the construction of the overhead line. Relevant

measures will also be adhered to during the operational maintenance of the overhead line. Measures include construction methods agreed with SNH, and restrictions on working within the breeding bird season.

NTS 1. Route of Proposed 11kV Overhead Line



**Cronberry to Common Farm
11kV Overhead Line Rebuild**

- Legend**
- Proposed 11kV Overhead Line
 - - - Original 11kV Overhead Line

N	Route of Proposed Overhead Line
Sheet No.	
	1:25,000

4 ENVIRONMENTAL IMPACT ASSESSMENT

Introduction

- 4.1 EIA is the process of compiling, evaluating and presenting all of the potential significant environmental effects of a proposed development. This is an iterative process that allows the identification of potential environmental effects and the development of mitigation measures which aim to avoid, reduce or offset the effects of the development.
- 4.2 Whilst a range of possible effects have been investigated as part of the EIA process, only effects identified as being of likely significance prior to the implementation of the proposed mitigation measures have been addressed fully in the ES. Where no significant effects are likely for a topic area these have been scoped out of the assessment and have been described in brief below:
- **Landscape & Visual** - there is a general consensus that lower voltage 33kV and 11kV wood pole overhead lines do not significantly impact on landscape and visual amenity. There are also no landscape designations or sensitive receptors in the area surrounding the proposed overhead line rebuild.
 - **Cultural Heritage** - No Scheduled Ancient Monuments, listed buildings, garden and designed landscapes, world heritage sites or battlefields were found within 1km of the overhead line section identified for rebuild. A number of sites identified on the National Monuments Record of Scotland and the Scottish Sites and Monuments Record are within 1km of the proposed overhead line but none will be affected directly by the construction works or access. Good working practices are to be employed through an Environmental Management Plan (EMP) which will manage the construction works.
 - **Hydrology** - Potential impacts on the water environment relate mainly to reductions in surface or groundwater quality during construction. Whilst the overhead line is routed close to a number of watercourses, wood poles will be located so that during construction and operation the risk of polluting watercourses is reduced. The risk of pollution will be further mitigated through careful working practices and adherence to pollution preventions guidelines.
- 4.3 On this basis, SPEN remains of the opinion that significant effects on the above factors are not likely and are therefore not given further consideration in the ES.

Planning Policy Review

- 4.4 The application to construct and operate the proposed overhead line rebuild will be made to the Scottish ministers under section 37 of the Electricity Act 1989. The Ministers will consider the section 37 application in the context of a range of policies at national, regional

and local level including Planning Policy Guidance, Scottish Planning Policies, the Ayrshire Joint Structure Plan and the East Ayrshire Local Plan.

- 4.5 The following sub-sections provide a summary of the findings of the assessment of each of the topics covered in the ES. The assessment describes potential significant effects.

Ecology and Nature Conservation

- 4.6 Baseline ecological conditions with respect to flora and fauna have been identified through a combination of desk study and field surveys. The baseline survey and consultations identified the following ecological receptors that could potentially be affected by the proposed overhead line:
- Designated sites: Muirkirk and North Lowther Upland SPA, Airds Moss SAC, Muirkirk Uplands SSSI;
 - Habitats and notable flora: mires, improved pastures and grassland, acid and base rich grasslands.
 - European protected species: otters.
- 4.7 Potential construction and operational impacts on ecological resources in the vicinity of the proposed overhead include;
- Habitat loss in protected sites such as Muirkirk and North Lowther Upland SPA, Airds Moss SAC and Muirkirk Uplands SSSI.
 - Damage to sensitive habitats during construction activities.
 - Disturbance of otters during construction.
 - Disturbance of hen harriers and their nesting, feeding and roosting sites.
- 4.8 Detailed mitigation measures, as agreed with SNH, will be implemented during construction and controlled through the EMP to ensure the potential impacts are controlled and do not have a significant effect. Measures include:
- The preparation of an Environmental Management Plan (EMP) which will identify and control the mitigation measures to be implemented as part of the project.
 - The preparation of a Construction Method Statement which will describe the activities to be undertaken including soil stripping, vegetation removal, excavations and land reinstatement.
 - Training of construction staff on the requirements of the EMP and highlighting sensitive areas, as identified in the ES, along and adjacent to the overhead line.
 - Construction programming to take account of sensitive seasonal constraints wherever possible.
 - Minimise working areas in order to reduce the disturbance of land, flora and fauna.
 - Pre-construction surveys prior to commencement of construction works.
 - Adherence to good working practices and pollution prevention guidance to control and manage the risk of pollution.

- 4.9 The mitigation measures identified and controlled by the EMP and an Ecological Clerk of Works, ensure that the residual impacts on designated sites are predicted to be **not significant**.
- 4.10 Some of the habitats outwith the designated sites boundaries are as sensitive as the habitats within. A detailed construction method statement, implementing the mitigation measures identified above, will be employed in these sensitive areas also. Residual effects on habitats and notable flora are predicted to be **not significant**.
- 4.11 Habitat loss from the construction of the overhead lines is not considered to be significant in the long term in respect to commuting and foraging otters in the area due to the small area of habitat loss. There is abundant similar habitat, such as marshy grasslands, small streams and rivers, in the surrounding area. Impact on otters is therefore **not significant**.

Ornithology

- 4.12 The existing ornithological interests within the area have been established through consultation with Scottish Natural Heritage and during the Phase I and II Habitat and protected species surveys.
- 4.13 The overhead line is routed through sites designated for their bird interest. The sites regularly support breeding populations of European important Annex 1 species including golden plover, hen harrier, merlin, peregrine and short-eared owl.
- 4.14 Discussions with SNH identified that hen harriers could potentially be affected by the proposed overhead line rebuild.
- 4.15 Potential construction and operational impacts on ornithological resources in the vicinity of the proposed overhead include;
- Disruption of hen harrier roosting sites during construction activities.
 - Disturbance of foraging grounds for hen harriers.
 - Collisions risk of birds along newly constructed line.
- 4.16 Detailed mitigation measures, as agreed with SNH, will be implemented during construction and controlled through the EMP to ensure the potential impacts are controlled and do not have a significant effect. Measures include:
- Construction will be complete outside of the harrier nesting season (March to September) within the Muirkirk Uplands SPA/SAC/SSSI. Outwith this area, if any works are required during this period, pre-construction surveys will be undertaken by a qualified ornithologist.
 - Works will be completed between September and November with a pre-construction survey before works begin to ensure there are no roosting hen harriers close to construction areas.
 - Construction activities will be undertaken within defined areas to limit disturbance.

- A suitably qualified ornithologist will be available to advise should any hen harriers roost sites be identified during construction.
- 4.17 Hen harriers are of international importance and are predicted to have a potentially high sensitivity to overhead line construction and operation. With the detailed mitigation measures identified above the magnitude of impacts is predicted to be minor and therefore **not significant**.

5 SUMMARY & CONCLUSIONS

- 5.1 SP Distribution has a statutory duty to develop and maintain an efficient, co-ordinated and economical system of electricity distribution.
- 5.2 This NTS has been prepared in support of the Section 37 application (under the Electricity Act 1989) to the Scottish Ministers to construct and operate a 11kV overhead line between the Cronberry Primary Substation, near Nether Wellwood, and Cronberry Farm in East Ayrshire, Scotland. The overhead line is required to replace a previous overhead line that was unlawfully removed.
- 5.3 This project involves the replacement of a low voltage overhead line. Generally such small scale projects are considered to have minimal potential for significant effects. However, due to the required local connection and the absence of alternative feasible routes the overhead line is routed through a sensitive site. This means that Schedule 2 of the EIA Regulations is invoked.
- 5.4 SPEN has considered the proposals against a number of environmental disciplines. Landscape & visual, cultural heritage and hydrology impacts were scoped out at an early stage due to the lack of potential significant effects.
- 5.5 The key potential impacts identified during the impact assessment include:
- Habitat loss in protected sites such as Muirkirk and North Lowther Upland SPA, Airds Moss SAC and Muirkirk Uplands SSSI.
 - Damage to sensitive habitats during construction activities.
 - Disturbance of otters during construction.
 - Disturbance of hen harriers and their nesting, feeding and roosting sites.
- 5.6 Through the development of the overhead line it has been possible to avoid or prevent a number of potential environmental impacts occurring from the outset. The EIA process has identified further mitigation measures which will underpin the construction of the scheme.
- 5.7 With mitigation measure in place, the proposed overhead line rebuild **does not result in any significant environmental effects** during the construction or operation of the line.
- 5.8 As set out in the ES, SPEN has sought to conserve, where possible, the natural heritage and features of interest, and where environmental effects are envisaged, mitigation is proposed to seek to further reduce residual adverse effects. In this regard, SPEN consider that they have fulfilled their statutory duties under section 38 and Schedule 9 of the Electricity Act, 1989 to consider the possible environmental effects of the project and state what can '*reasonably be done*' to mitigate any identified adverse environmental effects. In accordance with its distribution licence obligations, SPEN, on behalf on SP Distribution, is committed to limiting disturbance to people and the environment by its operations.

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